

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-11 (Canceled).

Claim 12 (New): A method for diagnosing functional faults of a functional architecture composed of a set of functions associated with electronic components that produce and consume data, at least one of the data being able to assume a predetermined particular value following development of a functional fault of at least one of the electronic components of the set, the method, given a set of functions that performs a service, wherein input and output data can be associated with sensors or actuators, comprising:

- i) determining particular values, during which particular values corresponding to functional faults of the sensors and actuators are listed;
- ii) determining propagation, during which particular values that permit propagation of an information stream relating to defects across the functions are listed;
- iii) diagnosis, during which a functional diagnosis of the service as a function of the lists obtained from the determining i) and ii) are formed; and
- iv) recording the particular values and their propagation on a memory device for a tool provided for validation of the architecture.

Claim 13 (New): A diagnostic method according to claim 12, wherein, after the diagnosis (iii), given the choice of an embodiment manifested by:

a hardware architecture composed of calculators, networks, signal lines, and connectors,

and mapping of functions onto the hardware architecture,

the particular values are listed according to the method, to deduce an operational diagnosis of the resulting electronic architecture.

Claim 14 (New): A diagnostic method according to claim 12, wherein the particular values are classified after mapping of the functions onto the hardware architecture.

Claim 15 (New): A diagnostic method according to claim 14, wherein the particular values are classified among at least one of classes of:

cut bus;

corrupted frame;

short circuit applied to a wire;

wrong contact applied to a connector of a strand, sensor, actuator or calculator; and

execution fault applied to a microcontroller.

Claim 16 (New): A method according to claim 12, wherein, given an operational diagnosis for a service, the functional particular values associated with sensors, actuators, and functions executing the service having been listed for at least one data flow between two functions, or between a sensor and a function, or between a function and an actuator, for which no functional particular value is defined for the flow, if an operational particular value is defined, then a new functional particular value is automatically determined for this at least one data flow.

Claim 17 (New): A method according to claim 12, wherein undiagnosed feared incidents are listed to construct an analysis of functional safety of the functional architecture.

Claim 18 (New): A method according to claim 12, wherein, given the choice of an embodiment manifested by:

a hardware architecture composed of calculators, networks, signal lines, and connectors,

and mapping of functions onto the hardware architecture,

the particular values and feared incidents are listed according to the method, to deduce an analysis of functional safety of the resulting functional architecture.

Claim 19 (New): A diagnostic method according to claim 12, wherein the architecture comprises an architecture with which a vehicle can be equipped.

Claim 20 (New): A diagnostic method according to claim 12, further comprising analysis of feasibility and/or susceptibility to failure of functioning of the architecture and of establishment of an output indicating the feasibility and/or susceptibility to failure.

Claim 21 (New): A commercial article provided with a computer-readable memory, a program executable by a computer being recorded in the memory for diagnosis of functional faults of a functional architecture, the program including encoding for:

i) determining and listing particular values corresponding to functional faults of sensors and actuators;

ii) determining and listing particular values permitting propagation of information relating to these faults across the functional architecture;

iii) forming the functional diagnosis of the service as a function of the lists obtained from the determining (i) and (ii); and

iv) recording the particular values and their propagation on a memory for a tool provided for validation of the architecture.

Claim 22 (New): A data-processing tool programmed for the diagnosis of functional faults of a functional architecture using the method according to claim 12.

Claim 23 (New): A data-processing tool programmed for the diagnosis of functional faults of a functional architecture by using the commercial article according to claim 21.